

REMARKS

The Examiner is thanked for the thorough review and consideration of the present application. The non-final Office Action dated August 28, 2003 has been received and its contents carefully reviewed.

By this Response, Applicants have amended the specification to correct minor typographical errors, and amended claims 1, 8, 10-11 and 19-24. No new matter has been added. Claims 1-32 are pending in the application. Reconsideration and withdrawal of the rejections based upon the above amendments and the following remarks are requested.

In the Office Action, claims 1-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,166,085, issued to Wakai et al. ("Wakai") in view of U.S. Patent No. 6,335,276, issued to Park et al. ("Park") and further in view of U.S. Patent No. 6,274,884, issued to Lee et al. ("Lee"). The Office Action states that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the required ohmic/drain and width/portion structures in Wakai as taught by Park and Lee, respectively, in order to have a liquid crystal display device with better performance" (Office Action, page 3). Applicants disagree and traverse the rejection because Wakai, Park and Lee fail to teach or suggest all of the combined features recited in the claims of the present application. In particular, Wakai, Park and Lee fail to teach or suggest a liquid crystal display panel that includes, among other features, "a drain electrode formed on the ohmic contact film, and having an uneven width" as recited in independent claim 1.

Wakai merely discloses "a method of manufacturing a thin film transistor (TFT), wherein thin films, such as a gate electrode, a gate insulating film, a semiconductor, a source electrode, and a drain electrode, are formed on a transparent insulating substrate and stacked one upon another" (col. 1, lines 12-17). However, as conceded by the Office Action, Wakai fails to "disclose the required ohmic/drain and width/portion structures" (Office Action, page 2).

Park merely discloses "a gate wire, including gate lines, gate electrodes and gate pads, is formed on a substrate. A gate insulating layer pattern covering the gate wire except for at least a part of the gate pad, a semiconductor layer pattern, a ohmic contact layer pattern are formed on

the gate wire. A data wire, including data lines, source and drain electrodes and data pads, is formed on the ohmic contact layer pattern” (col. 3, lines 25-31).

To compensate for the deficient teachings of Wakai and Park, the Office Action relies upon Lee. Based upon the teachings of Lee, the Office Action alleges that “it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the required ohmic/drain and width/portion structures in Wakai as taught by Park and Lee respectively in order to have a liquid crystal display device with better performance” (Office Action, page 3, lines 1-4). Applicants disagree.

Lee discloses “a gate electrode, an insulator covering the gate electrode, an amorphous silicon layer formed on the insulator, a source electrode which is formed on the amorphous silicon layer and overlaps the gate electrode, and a drain electrode which is formed on the amorphous silicon layer and opposite and separated from the source electrode, and overlaps the gate electrode” (col. 1, lines 52-57). Lee further discloses “a source electrode 50 of each TFT according to the fourth to the sixth embodiments partially surrounds the drain electrode in annular shape, which is symmetrical with respect to the drain electrode 60” (col. 6, lines 5-8). However, Applicants respectfully submit Lee fails to teach or suggest “a drain electrode formed on the ohmic contact film, and having an uneven width” as recited in independent claim 1 of the present application.

Because Lee fails to teach or suggest at least the above feature of claim 1, Lee fails to remedy the deficient teachings of Park and Wakai. As such, no combination of Wakai, Park and Lee would provide a liquid crystal display panel having all the combined features claim 1 and its rejected, dependent claims 2-7. Reconsideration and withdrawal of the rejection of claims 1-7 are requested.

The Office Action rejected claims 8-20 under 35 U.S.C. § 103(a) as being unpatentable over Wakai, Park, Lee and further in view of U.S. Patent No. 6, 310,668, issued to Ukita. The Office Action concedes that “Wakai, Park and Lee fail to disclose the required overlapping structure” (Office Action, page 3, paragraph 2). To compensate for the deficient teachings of Wakai, Park and Lee, the Office Action relies upon the teachings of Ukita. Based upon the teachings of Ukita, the Office Action alleges “it would have been obvious to one of ordinary

skill in the art at the time of the invention was made to include the required overlapping structure in Wakai, Park and Lee in order to have a liquid crystal display device with better performance” (Office Action, page 3). Applicants disagree and traverse the rejection because neither Wakai, Park, Lee nor Ukita teach or suggest the combined features recited in the claims of the present application. In particular, Wakai, Park, Lee and Ukita fail to teach or suggest a liquid crystal display panel having:

“a drain electrode formed on an ohmic contact film, and having an uneven width” as recited in independent claim 1;

“a drain electrode on an ohmic contact film, having an uneven width and having first and second portions, wherein a second portion of the drain electrode has a smaller width than the first portion of the drain electrode; and wherein the first and second portion of the drain electrode overlap with the gate electrode and the second portion is connected with the pixel electrode” as recited in independent claim 19; and

“a drain electrode on an ohmic contact film, having an uneven width and having first, second and third portion, wherein the second portion of the drain electrode has a smaller width than the first and third portions of the drain electrode; and wherein the first and second portions of the drain electrode overlap with the gate electrode and the third portion is connected with the pixel electrode” as recited in independent claim 20.

In Ukita, “a source notch portion 11 assuming a rectangular shape is formed insider the source electrode 10, and disposed in a partially overlapping relationship with the gate electrode 2” (col. 10, lines 37-41). However, Ukita fails to teach or suggest a liquid crystal display panel including, among other features, “a drain electrode formed on an ohmic contact film, and having an uneven width” as recited in independent claim 1, “a drain electrode on an ohmic contact film, having an uneven width and having first and second portions” as recited in independent claim 19; and “a drain electrde on an ohmic contact film, having an uneven width and having first, second and third portions” as recited in independent claim 20.

Because Ukita fails to teach or suggest at least at the above features recited in claims 1, 19 and 20, Ukita fails to remedy the deficient teachings of Wakai, Park, Lee and Ukita. Accordingly, no combination of Wakai, Park, Lee and Ukita, analyzed alone or in any rational

combination, provide a liquid crystal display device as recited in rejected claim 1 and its dependent claims 8-18, and rejected claims 19 and 20. Reconsideration and withdrawal of the rejection are requested.

The Office Action rejected claims 21-23 under 35 U.S.C. § 103(a) as being unpatentable over Wakai, Park, Lee and further in view of U.S. Patent No. 5,097,297, issued to Nakazawa. With regard to claims 21-23, the Office Action states that the Wakai, Park and Lee combination fails to disclose the required overlapping structure. To compensate for the deficient teachings of Wakai, Park and Lee, the Office Action relies upon Nakazawa. Based upon the teachings of Nakazawa, the Office Action alleges that it would have been obvious to one having ordinary skill in the art to include the required overlapping structure of Nakazawa in the Wakai, Park and Lee combination.

Applicants respectfully traverse the rejection because no combination of Wakai, Park, Lee and Nakazawa teach or suggest the combined features recited in the claims of the present application. In particular, Wakai, Park, Lee and Nakazawa fail to teach or suggest a thin film transistor:

“wherein the drain electrode has an uneven width” as recited in independent claim 21;

“wherein first and second portions of the drain electrode overlap with the gate electrode and the second portion is connected with the pixel electrode, the second portion having a smaller width than the first portion” as recited in independent claim 22; and

“wherein a first and second portion of the drain electrode overlap with the gate electrode and a third portion is connected with the pixel electrode, the second portion having a smaller width than the first and second portions” as recited in independent claim 23.

Nakazawa discloses a TFT that includes “at least one elongated source electrode and one elongated drain electrode oriented in parallel and spaced apart from the source electrode with an elongated gate disposed across the source and drain electrodes. The source electrodes and the drain electrodes are wired in parallel and a semiconductor channel layer is provided to contact all of the source and drain electrodes” (col. 2, lines 23-30).

However, Applicants respectfully submit Nakazawa fails to teach or suggest a thin film transistor having the combined features recited in independent claims 21-23 set forth above. Accordingly, Nakazawa fails to remedy the deficient teachings of Wakai, Park and Lee such that one of ordinary skill in the art would be motivated by the teachings of Nakazawa, Park and Lee to modify the method disclosed in Wakai to obtain the combined features recited in claims 21-23. As such, claims 21-23 are patentable over Wakai, Park, Lee and Nakazawa. Reconsideration and withdrawal of the rejection are requested.

The Office Action rejected claims 24-32 under 35 U.S.C. § 103(a) as being unpatentable over Wakai, Park, Lee, Ukita, and further in view of U.S. Patent No. 5, 886,757, issued to Song et al. ("Song"). The Office Action concedes, in paragraph 4, that Wakai, Park, Lee and Ukita fail to disclose the required method of making the liquid crystal display device of the present application. To compensate for the deficient teachings of Wakai, Park, Lee and Ukita, the Office Action relies upon the teachings of Song. However, Applicants traverse the rejection because Song is not valid prior art against the claims of the present invention.

Under 35 U.S.C. § 103(c), subject matter developed by another person which qualifies as prior art under 35 U.S.C. § 102(e) shall not preclude patentability under 35 U.S.C. § 103 where the subject matter in the claimed invention were, at the time of the invention was made, owned by the same persons or subject to an obligation of assignment to the same person. LG. Electronics Inc. is a division of LG. Philips LCD Co., Ltd. Therefore, the present application (application serial number 10/026,479) and Song were, at the time of the invention of the present application, made and owned by LG. Philips LCD Co., Ltd. Therefore, Applicants respectfully request that the rejection be withdrawn as Song is not valid prior art, and the combination of Wakai, Park, Lee and Ukita fails to provide the method of making a liquid crystal display panel recited in rejected claims 24-32 of the present application. Reconsideration and withdrawal of the rejection are requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner deems that a telephone conversation would

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further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: November 25, 2003

Respectfully submitted,

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